

We Claim:

1. A method of producing an edible mushroom-producing fungi containing biologically active forms of folic acid, comprising the steps of:

(a) supplying a growth environment for cultivation of edible mushroom-producing fungi

5 wherein the growth environment comprises a substrate and water;

(b) adding a synthetic folate to the growth environment;

(c) combining a spawn of at least one edible mushroom-producing fungi with the substrate;

(d) cultivating the edible mushroom-producing fungi in the growth environment for a

10 sufficient time to permit the mushroom-producing fungi to accumulate a nutritionally significant amount of methylated folate.

2. The method of claim 1, wherein the substrate comprises organic brown rice.

3. The method of claim 1, wherein the mushroom-producing fungi is selected from the group consisting of shitake, reishi or maitake.

15 4. The method of claim 1, further comprising the steps of harvesting the cultivated mushroom-producing fungi, drying the harvested fungi and milling the dried fungi.

5. The method of claim 4, wherein the fungi are dried using air heated to no great than 120°F.

6. The method of claim 5, wherein the dried fungi is milled to a powder, having a mesh size
20 of between about 40 mesh to about 60 mesh.

7. The method of claim 1, wherein the edible mushroom-producing fungi is cultivated for a sufficient time to permit mycelia to reach the primordial stage.

8. The method of claim 1, wherein the edible mushroom-producing fungi is cultivated for a sufficient time to permit fruiting bodies to form.

9. The method of claim 1, further comprising the step of adding para-aminobenzoic acid to the substrate.

5 10. A method of producing an edible mushroom containing biologically active forms of folic acid, comprising the steps of:

(a) placing organic brown rice soaked in distilled water in plastic bottles;

(b) sterilizing the brown rice and bottles in a steam autoclave at a temperature of between about 250°F and about 260°F;

10 (c) obtaining a volume of distilled water and adding acetic acid to the distilled water to adjust the pH to between about 6 to about 7;

(d) sterilizing the distilled water in a steam autoclave at a temperature of between about 250°F and about 260°F;

15 (e) adding pteroylmonoglutamate solution to plastic bottle containing the organic brown rice;

(f) adding a volume of the pteroylmonoglutamate solution to plastic bottle containing the organic brown rice;

(g) adding a spawn of mushroom-producing fungi to the plastic bottles;

20 (h) monitoring the progress of fungi growth in the plastic bottles until mycelia have grown and reached the primordial stage; and

(i) harvesting and drying the mycelia.

11. The method of claim 10, wherein the spawn of mushroom-producing fungi is selected from the group consisting of reishi, shitake or maitake.

12. The method of claim 10, wherein the mycelia are dried using air heated to no greater than 120°F.
13. The method of claim 12, wherein the dried mycelia are milled to a powder, having a mesh size of between about 60 mesh and about 400 mesh..
- 5 14. A nutritional supplement containing reduced, methylated active folates comprising edible mushroom-producing fungi grown in accordance with the method of claim 1.
15. The nutritional supplement of claim 14, wherein the reduced, methylated active folates comprise the L-isomer of 5-MTHF.
16. The nutritional supplement of claim 14, wherein the edible mushrooms are processed and
10 incorporated in a capsule, tablet, soft gel powder or gel packet.
17. The nutritional supplement of claim 14, wherein the nutritional supplement comprises between about 200 µg and about 2000 µg of reduced, methylated active folates.
18. The nutritional supplement of claim 17, wherein the reduced, methylated active folates comprise the L-isomer of 5-MTHF.
- 15 19. A method for treating cardiovascular disease in humans having hypothyroidism comprising the step of administering a therapeutically effective amount of the nutritional supplement of claim 14.
20. The method of claim 18, wherein the nutritional supplement contains between about 200 µg and 2000 µg of reduced, methylated active folates.